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- (71) Applicant (for all designated States except US): ARI-ZONA BOARD OF REGENTS [US/US]; acting for and behalf of, Arizona State University(ABR/ASU), P.O. Box 873511, Tempe, AZ 85287 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KEIM, Paul, S.

[US/US]; 3115 W. Tina Lane, Flagstaff, AZ 86001 (US).  
FARLOW, Jason [US/US]; 214 West Dale St., Apt. A,  
Flagstaff, AZ 86001 (US).

(74) Agent: MURRAY, Kittie; Quarles & Brady Streich Lang  
LLP, One Renaissance Square, Two North Central Ave.,  
Phoenix, AZ 85004-2391 (US).

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(54) Title: A HIGH RESOLUTION TYPING SYSTEM FOR PATHOGENIC BORRELIA



(57) Abstract: MLVA methods for strain discrimination among globally diverse *Borrelia* isolates including *B. burgdorferi*, *B. afzelii*, and *B. garinii* are disclosed. Ten VNTR loci have been identified from genomic and plasmid sequences of *Borrelia* strains and primer pairs suitable for amplifying the VNTR by PCR are disclosed. Polymorphisms at these loci were used to resolve genotypes into distinct groups. The resolution of 30 unique genotypes into five to seven distinct groups is demonstrated. This sub-typing scheme is useful for the epidemiological study of *Borrelia* and may be applied to the local detection of the pathological causative agent of Lyme Disease.

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